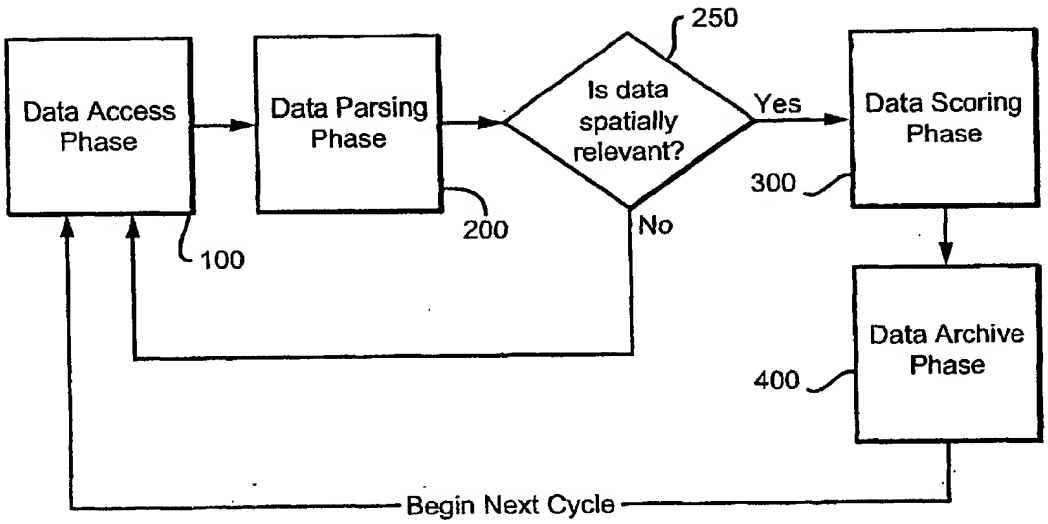
FIG. 1


Data Access Phase
Data Parsing Phase
Is data spatially relevant?
250
Yes
No
Data Scoring Phase
300
Data Archive Phase
400
100
200
Begin Next Cycle

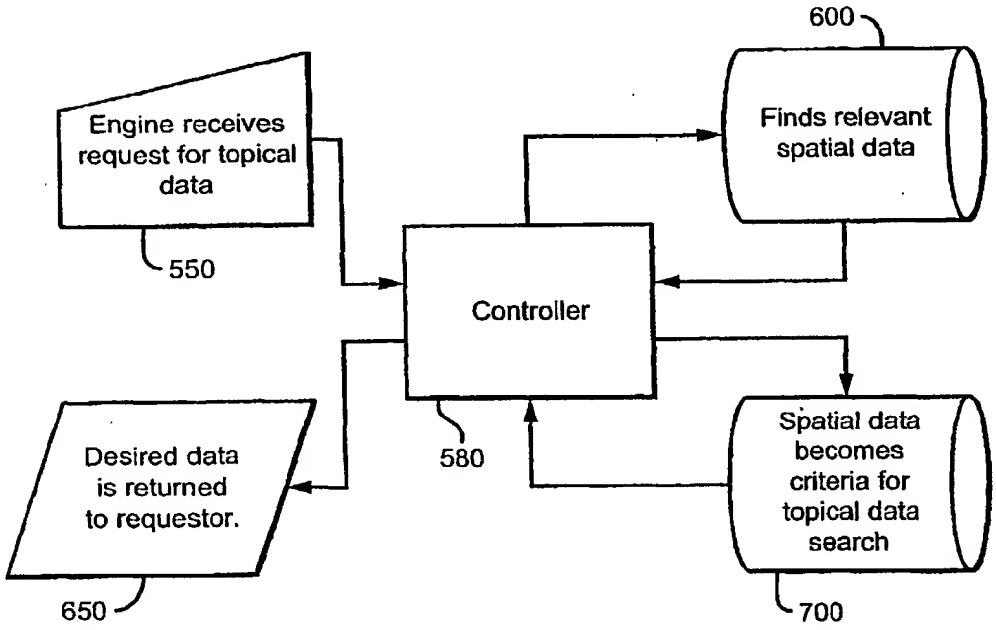

600
Engine receives request for topical data
550
Finds relevant spatial data
Controller
580
Desired data is returned to requestor.
650
Spatial data becomes criteria for topical data search
700

FIG. 2

FIG. 3

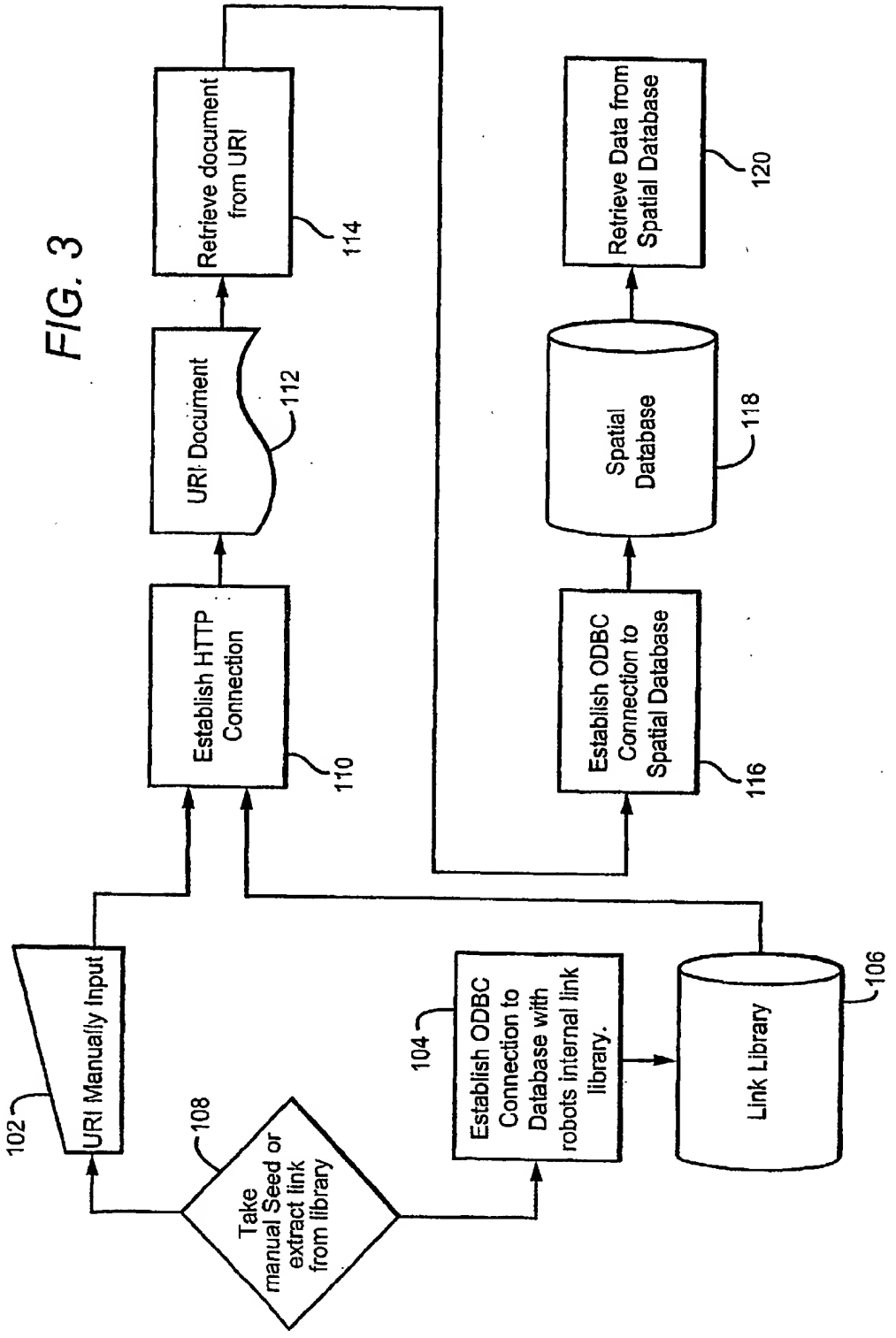

URI Manually Input
102
Take manual Seed or extract link from library
108
Establish ODBC Connection to Database with robots internal link library.
104
Link Library
106
Establish HTTP Connection
110
URI Document
112
Retrieve document from URI
114
Establish ODBC Connection to Spatial Database
116
Spatial Database
118
Retrieve Data from Spatial Database
120

FIG. 4

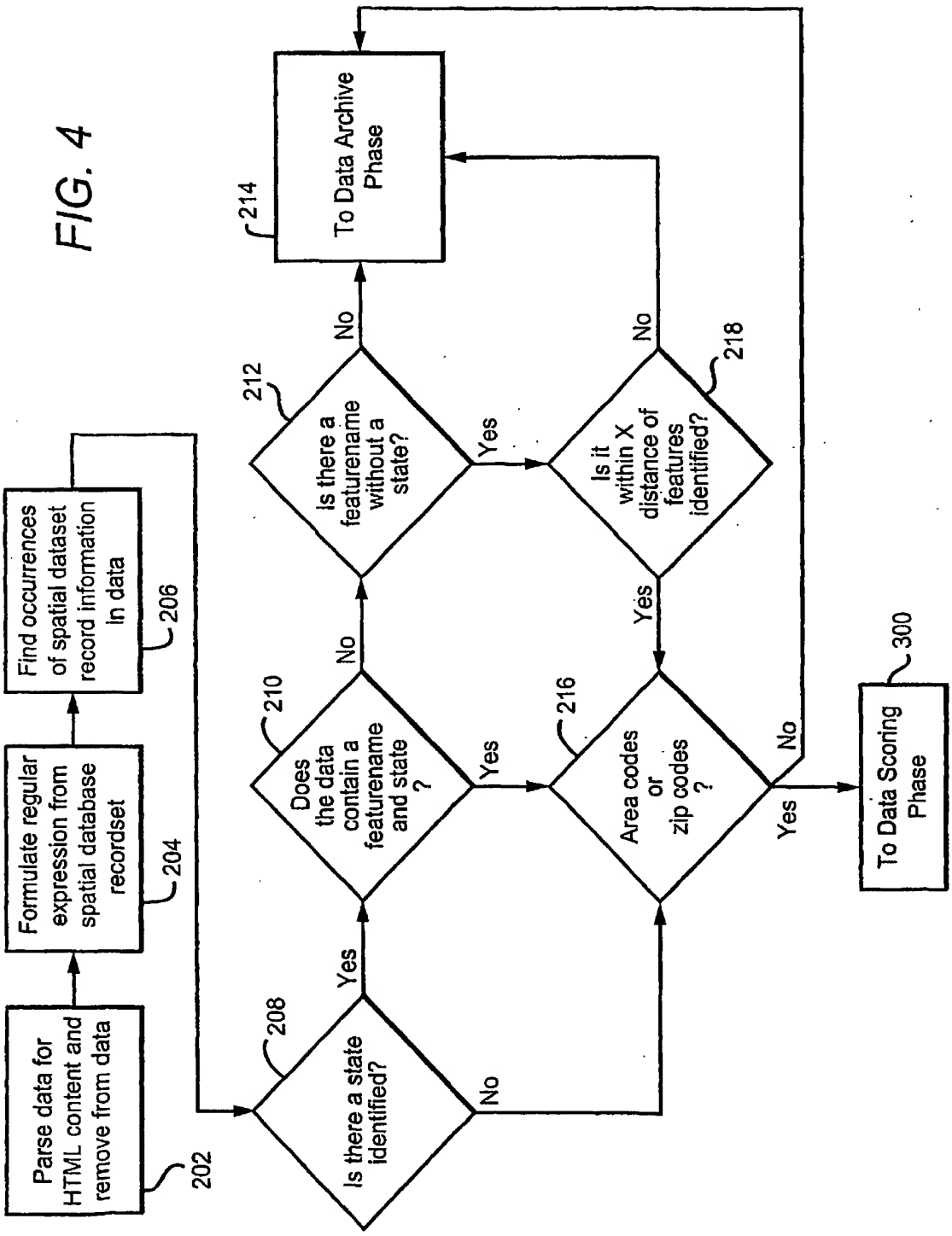
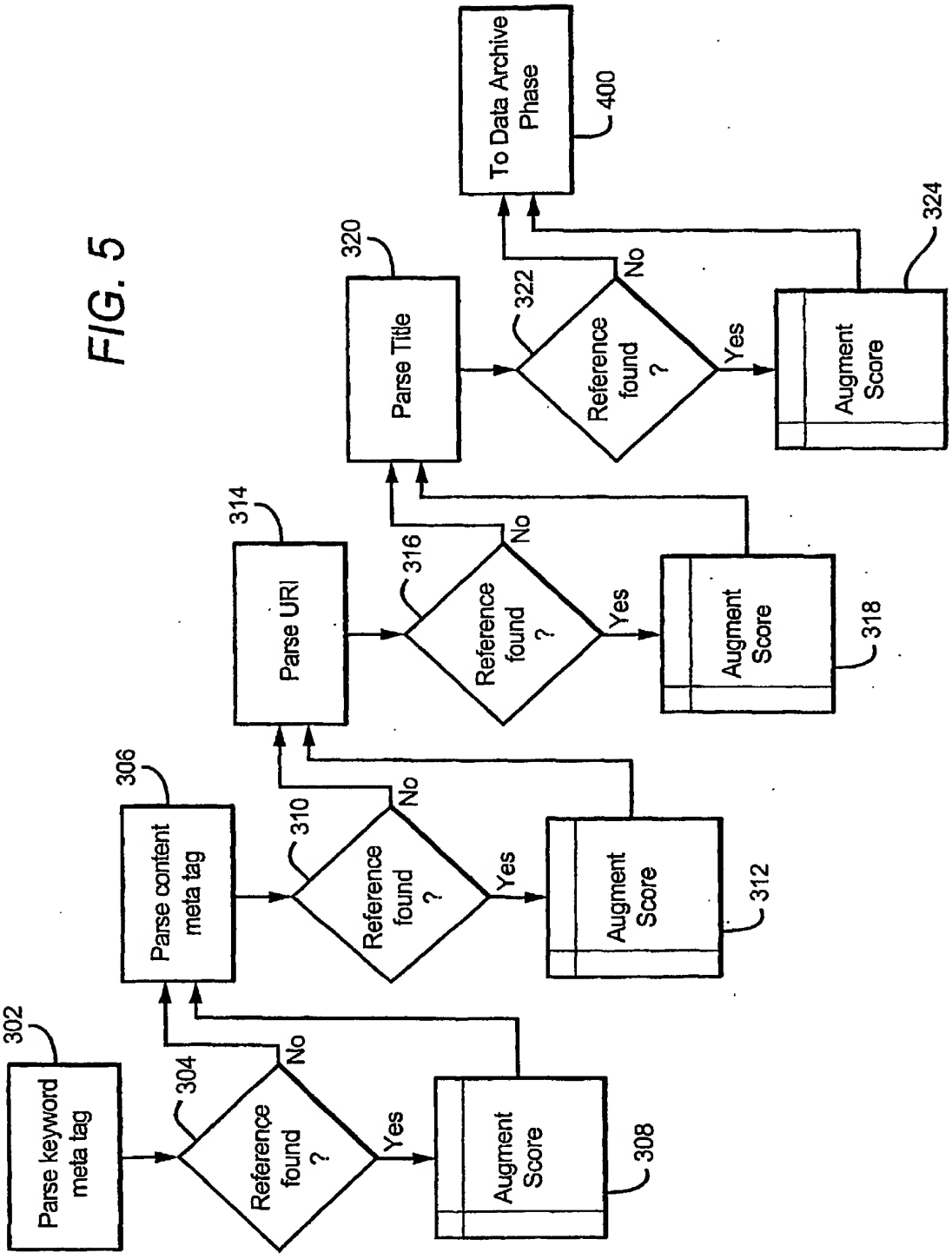

Parse data for HTML content and remove from data
202
Formulate regular expression from spatial database recordset
204
Find occurrences of spatial dataset record information in data
206
Is there a state identified?
208
Yes
No
Does the data contain a featurename and state ?
210
Yes
No
Is there a featurename without a state?
212
Yes
No
To Data Archive Phase
214
Area codes or zip codes ?
216
Yes
No
Is it within X distance of features identified?
218
Yes
No
To Data Scoring Phase
300

FIG. 5


302
Parse keyword meta tag
304
Reference found ?
No
Yes
308
Augment Score
306
Parse content meta tag
310
Reference found ?
No
Yes
312
Augment Score
314
Parse URI
316
Reference found ?
No
Yes
318
Augment Score
320
Parse Title
322
Reference found ?
No
Yes
324
Augment Score
To Data Archive Phase
400

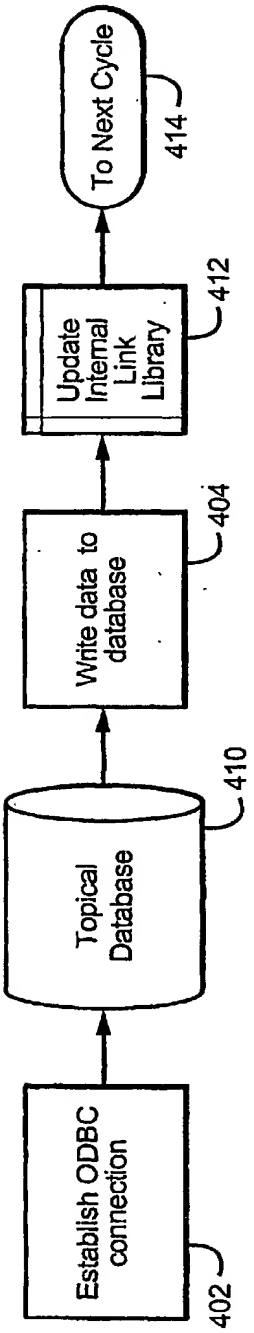

Establish ODBC connection
402
Topical Database
410
Write data to database
404
Update Internal Link Library
412
To Next Cycle
414

FIG. 6

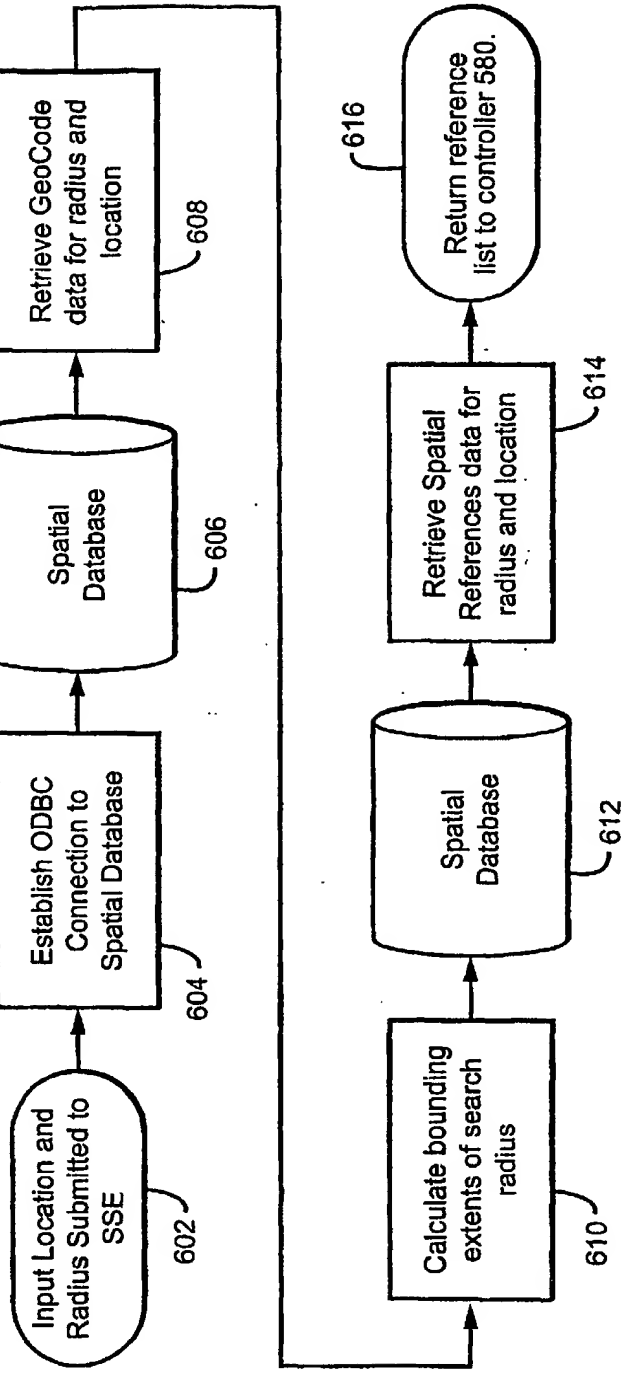
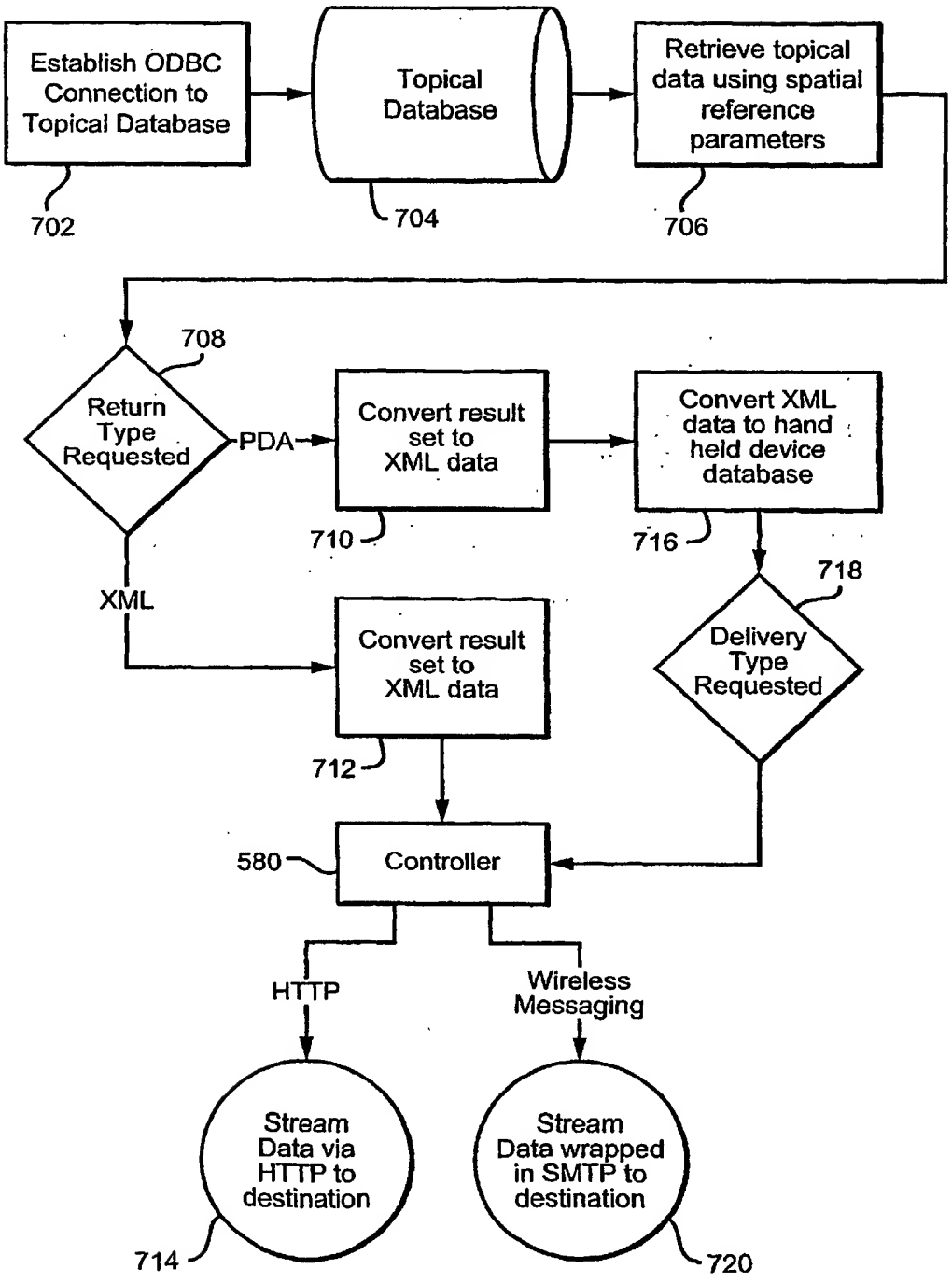

Input Location and Radius Submitted to SSE
602
Establish ODBC Connection to Spatial Database
604
Spatial Database
606
Retrieve GeoCode data for radius and location
608
Calculate bounding extents of search radius
610
Spatial Database
612
Retrieve Spatial References data for radius and location
614
Return reference list to controller 580.
616

FIG. 7

FIG. 8


Establish ODBC Connection to Topical Database
Topical Database
Retrieve topical data using spatial reference parameters
702
704
706
708
Return Type Requested
PDA
Convert result set to XML data
Convert XML data to hand held device database
710
716
718
XML
Convert result set to XML data
Delivery Type Requested
712
580
Controller
HTTP
Wireless Messaging
Stream Data via HTTP to destination
Stream Data wrapped in SMTP to destination
714
720

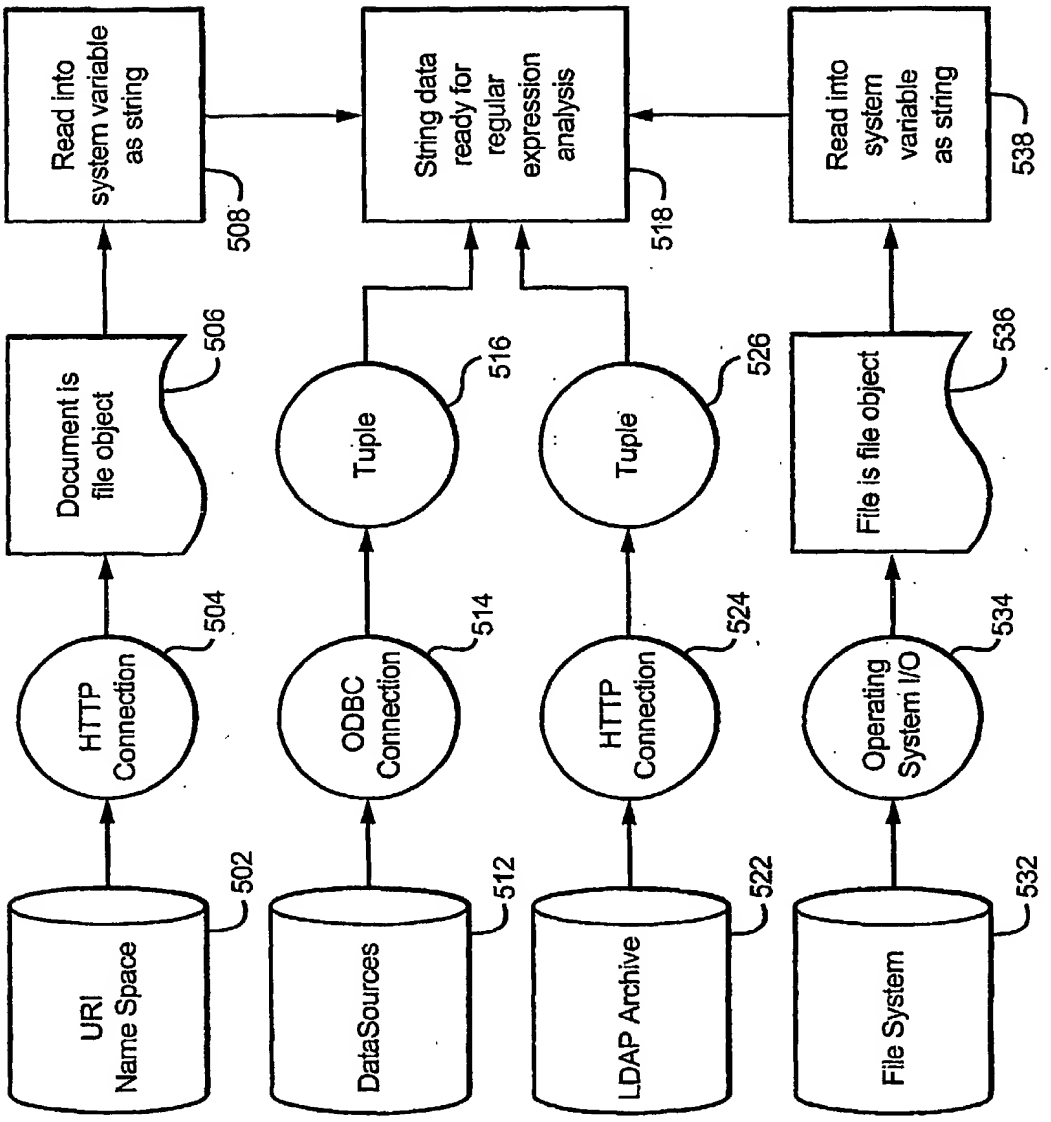

URI Name Space
502
HTTP Connection
504
Document is file object
506
Read into system variable as string
508
DataSources
512
ODBC Connection
514
Tuple
516
LDAP Archive
522
HTTP Connection
524
Tuple
526
File System
532
Operating System I/O
534
File is file object
536
Read into system variable as string
538
String data ready for regular expression analysis
518

FIG. 9

FIG. 10

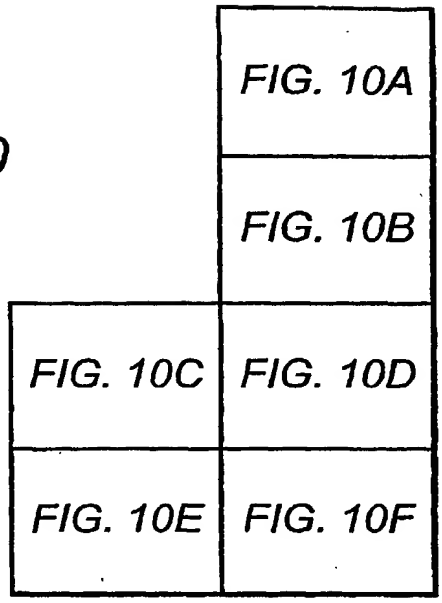
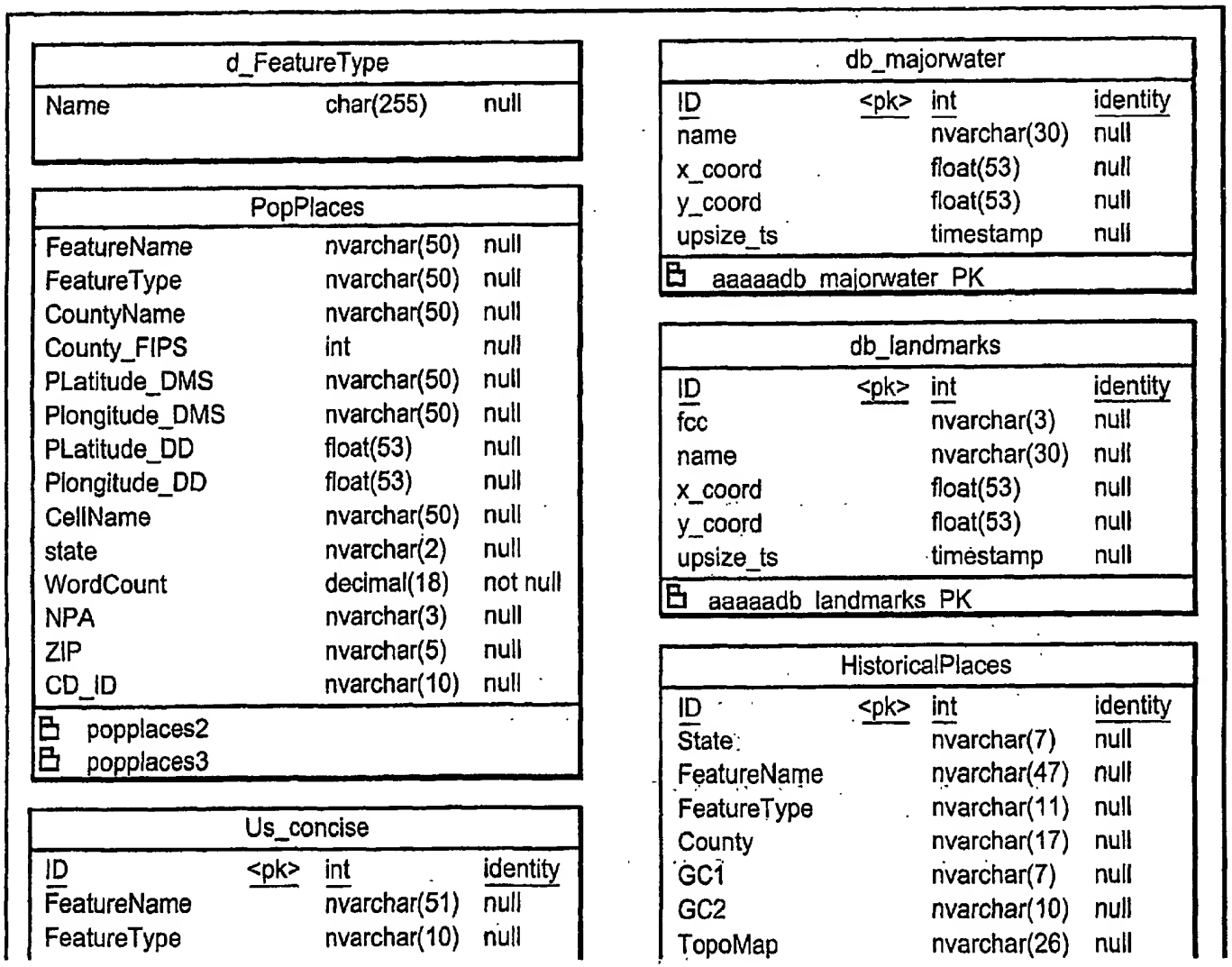


FIG. 11

ÿØÿà JFIF H H ÿí öPhotoshop 3.0 8BIM
â x Ö#!dcdisplay
\fp\\b0\\i0\\fs10\Source~Local:Staff; Date~22.12.1997; Type~Color;
ÐÐÐÐÐÐÐÐÐÐÐÐÐÐÐÐÐÐÐÐÐÐÐÐÐÐÐÐÐÐÐÐÐÐÐÐÐÐ
\fs16\\b\<No Title>\fs12\\b0\
Holding-JW-Aphoto4/22 Dec 1997/Photo by Jeff WidenerDANGEROUS RIDE 2Two
young people sit in the back of a pickup truck in Molokai.
\fp\\b0\\i0\\fs10\ÐÐÐÐÐÐÐÐÐÐÐÐÐÐÐÐÐÐÐÐÐÐÐÐÐÐÐÐÐÐÐÐÐÐÐÐÐÐ
\fp\\i0\\b\\fs16\Copyright 1997 - The Advertiser
\fp\\b0\\i0\\fs10\Year=1997; Month=12; Month=Dec; Day=22; Day=Mo;
Copyright=Advertiser-Yes; Photographer~Jeff_Widener; Object=Truck_Bed;
Event=Riding_on_Truck_Bed; Municipality=Honolulu; State=Hawaii;
Mainkey=Truck/Truck_Bed; Paper=Advertiser_Final; Published=23.12.1997;
Page=A5;
Aspect=Local:Staff; Aspect=22.12.1997; Aspect=Color; Aspect=1997;
Aspect=12; Aspect=Dec; Aspect=22; Aspect=Mo; Aspect=Advertiser-Yes;
Aspect=Jeff_Widener; Aspect=Truck_Bed; Aspect=Riding_on_Truck_Bed;
Aspect=Honolulu; Aspect=Hawaii; Aspect=Truck; Aspect=Truck_Bed;

FIG. 10A


d_FeatureType
Name char(255) null
PopPlaces
FeatureName nvarchar(50) null
FeatureType nvarchar(50) null
CountyName nvarchar(50) null
County_FIPS int null
PLatitude_DMS nvarchar(50) null
Plongitude_DMS nvarchar(50) null
PLatitude_DD float(53) null
Plongitude_DD float(53) null
CellName nvarchar(50) null
state nvarchar(2) null
WordCount decimal(18) not null
NPA nvarchar(3) null
ZIP nvarchar(5) null
CD_ID nvarchar(10) null
popplaces2
popplaces3
Us_concise
ID <pk> int identity
FeatureName nvarchar(51) null
FeatureType nvarchar(10) null
db_majorwater
ID <pk> int identity
name nvarchar(30) null
x_coord float(53) null
y_coord float(53) null
upsize_ts timestamp null
aaaaadb_majorwater_PK
db_landmarks
ID <pk> int identity
fcc nvarchar(3) null
name nvarchar(30) null
x_coord float(53) null
y_coord float(53) null
upsize_ts timestamp null
aaaaadb_landmarks_PK
HistoricalPlaces
ID <pk> int identity
State nvarchar(7) null
FeatureName nvarchar(47) null
FeatureType nvarchar(11) null
County nvarchar(17) null
GC1 nvarchar(7) null
GC2 nvarchar(10) null
TopoMap nvarchar(26) null

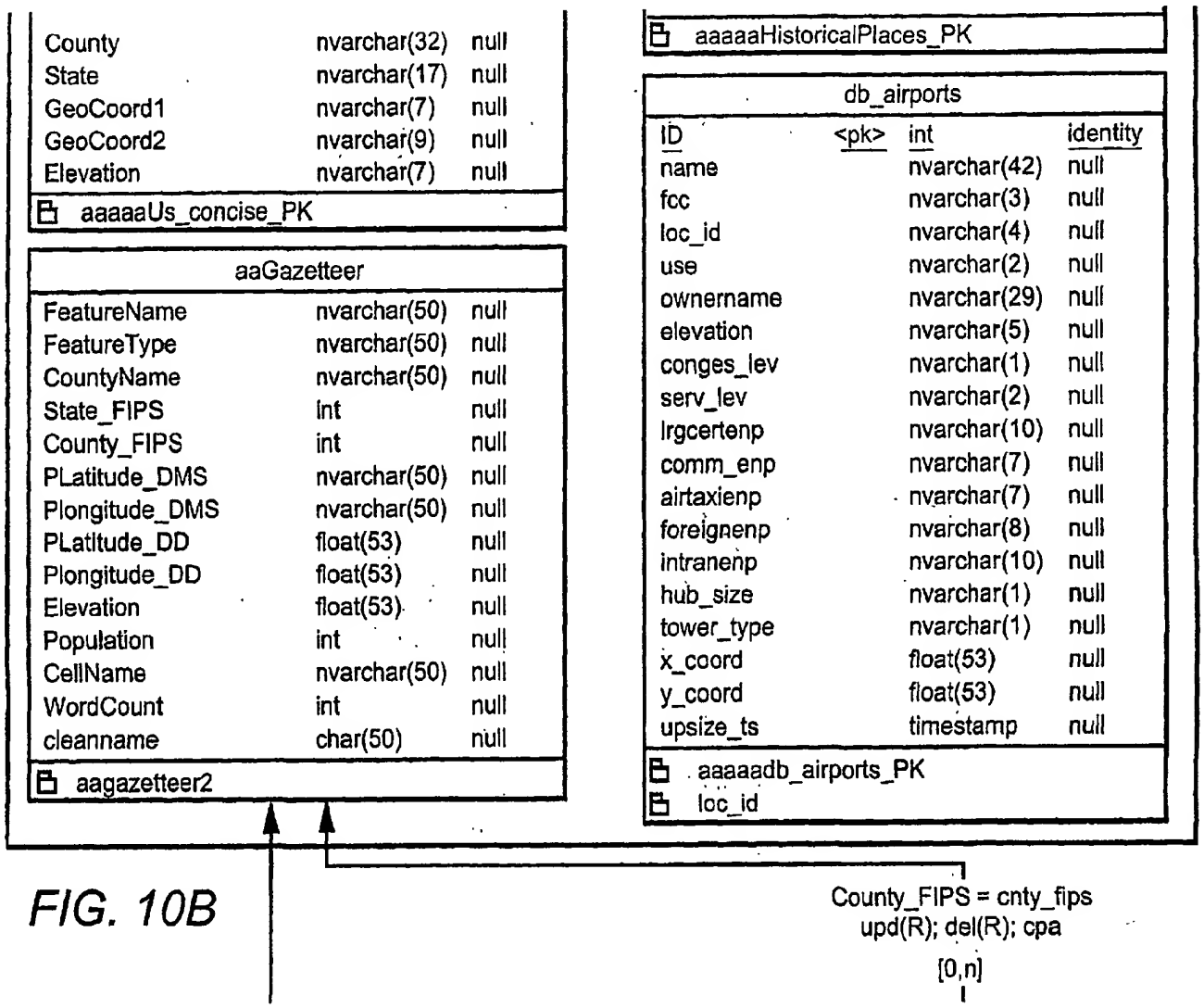

County nvarchar(32) null
State nvarchar(17) null
GeoCoord1 nvarchar(7) null
GeoCoord2 nvarchar(9) null
Elevation nvarchar(7) null
aaaaaUs_concise_PK
aaGazetteer
FeatureName nvarchar(50) null
FeatureType nvarchar(50) null
CountyName nvarchar(50) null
State_FIPS int null
County_FIPS int null
PLatitude_DMS nvarchar(50) null
Plongitude_DMS nvarchar(50) null
PLatitude_DD float(53) null
Plongitude_DD float(53) null
Elevation float(53) null
Population int null
CellName nvarchar(50) null
WordCount int null
cleanname char(50) null
aagazetteer2
aaaaaHistoricalPlaces_PK
db_airports
ID <pk> int identity
name nvarchar(42) null
fcc nvarchar(3) null
loc_id nvarchar(4) null
use nvarchar(2) null
ownername nvarchar(29) null
elevation nvarchar(5) null
conges_lev nvarchar(1) null
serv_lev nvarchar(2) null
lrgcertenp nvarchar(10) null
comm_enp nvarchar(7) null
airtaxienp nvarchar(7) null
foreignenp nvarchar(8) null
intranenp nvarchar(10) null
hub_size nvarchar(1) null
tower_type nvarchar(1) null
x_coord float(53) null
y_coord float(53) null
upsize_ts timestamp null
aaaaadb_airports_PK
loc_id
County_FIPS = cnty_fips
upd(R); del(R); cpa
[0,n]

FIG. 10B

FIG. 10C

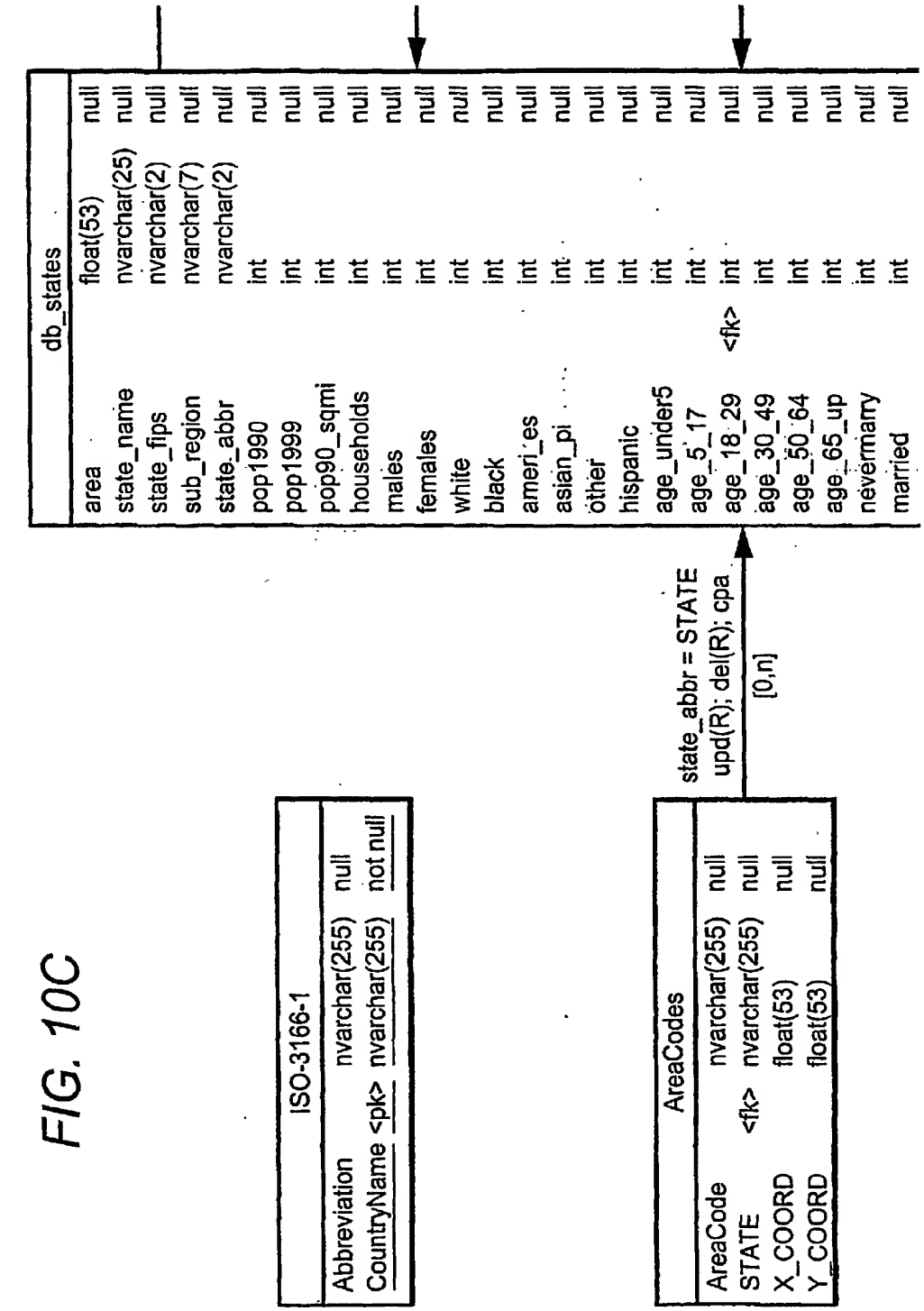
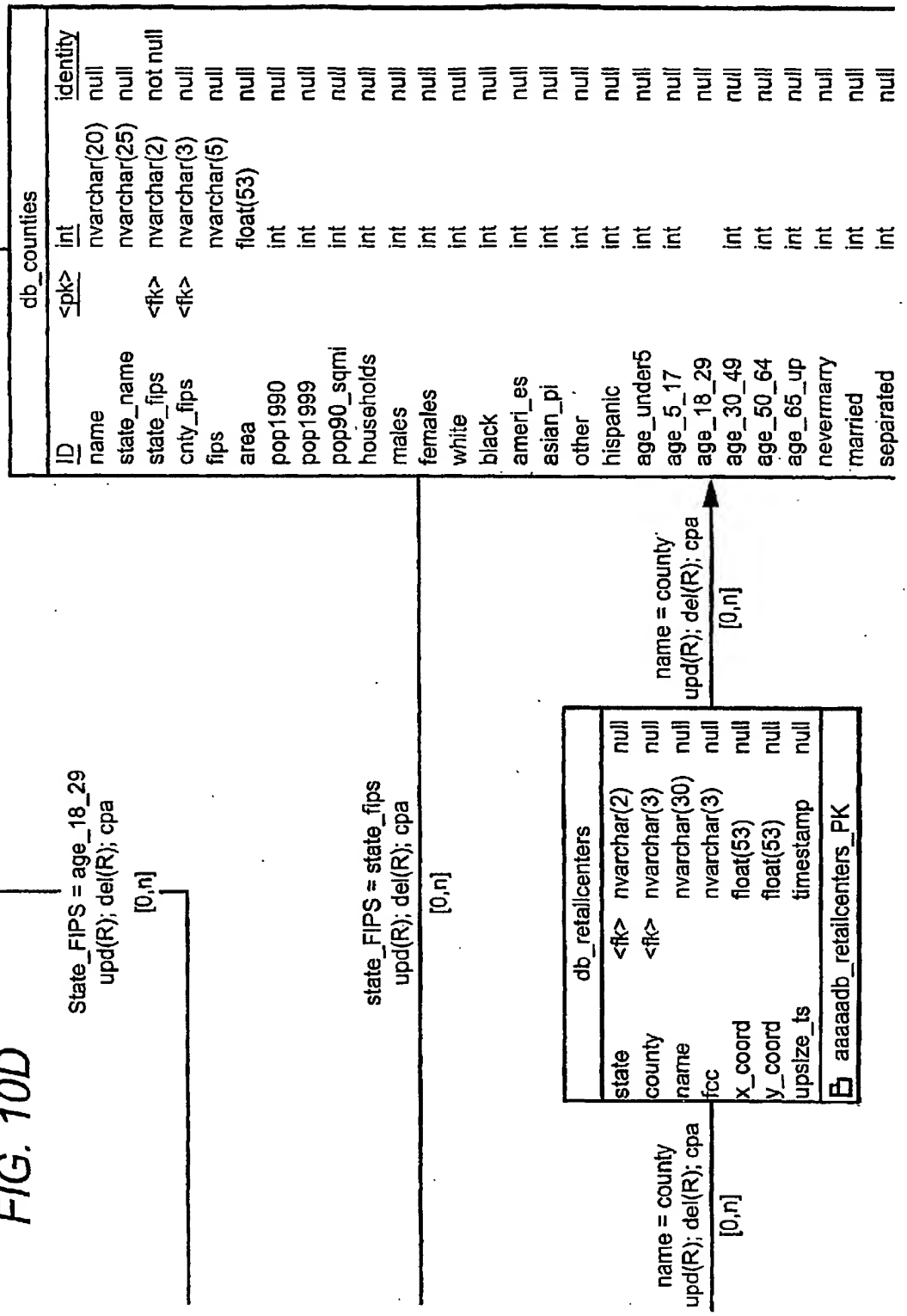

db_states
area float(53) null
state_name nvarchar(25) null
state_fips nvarchar(2) null
sub_region nvarchar(7) null
state_abbr nvarchar(2) null
pop1990 int null
pop1999 int null
pop90_sqmi int null
households int null
males int null
females int null
white int null
black int null
ameri_es int null
asian_pi int null
other int null
hispanic int null
age_under5 int null
age_5_17 int null
age_18_29 int null
age_30_49 int null
age_50_64 int null
age_65_up int null
nevermarry int null
married int null
ISO-3166-1
Abbreviation nvarchar(255) null
CountryName <pk> nvarchar(255) not null
AreaCodes
AreaCode nvarchar(255) null
STATE <fk> nvarchar(255) null
X_COORD float(53) null
Y_COORD float(53) null
state_abbr = STATE
upd(R); del(R); cpa
[0,n]
<fk>

FIG. 10D


db_counties
ID <pk> int identity
name nvarchar(20) null
state_name nvarchar(25) null
state_fips <fk> nvarchar(2) not null
cnty_fips <fk> nvarchar(3) null
fips nvarchar(5) null
area float(53) null
pop1990 int null
pop1999 int null
pop90_sqmi int null
households int null
males int null
females int null
white int null
black int null
ameri_es int null
asian_pi int null
other int null
hispanic int null
age_under5 int null
age_5_17 int null
age_18_29 int null
age_30_49 int null
age_50_64 int null
age_65_up int null
nevermarry int null
married int null
separated int null
State_FIPS = age_18_29
upd(R); del(R); cpa
[0,n]
state_FIPS = state_fips
upd(R); del(R); cpa
[0,n]
name = county
upd(R); del(R); cpa
[0,n]
name = county
upd(R); del(R); cpa
[0,n]
db_retailcenters
state <fk> nvarchar(2) null
county <fk> nvarchar(3) null
name nvarchar(30) null
fcc nvarchar(3) null
x_coord float(53) null
y_coord float(53) null
upsize_ts timestamp null
aaaaadb_retailcenters_PK

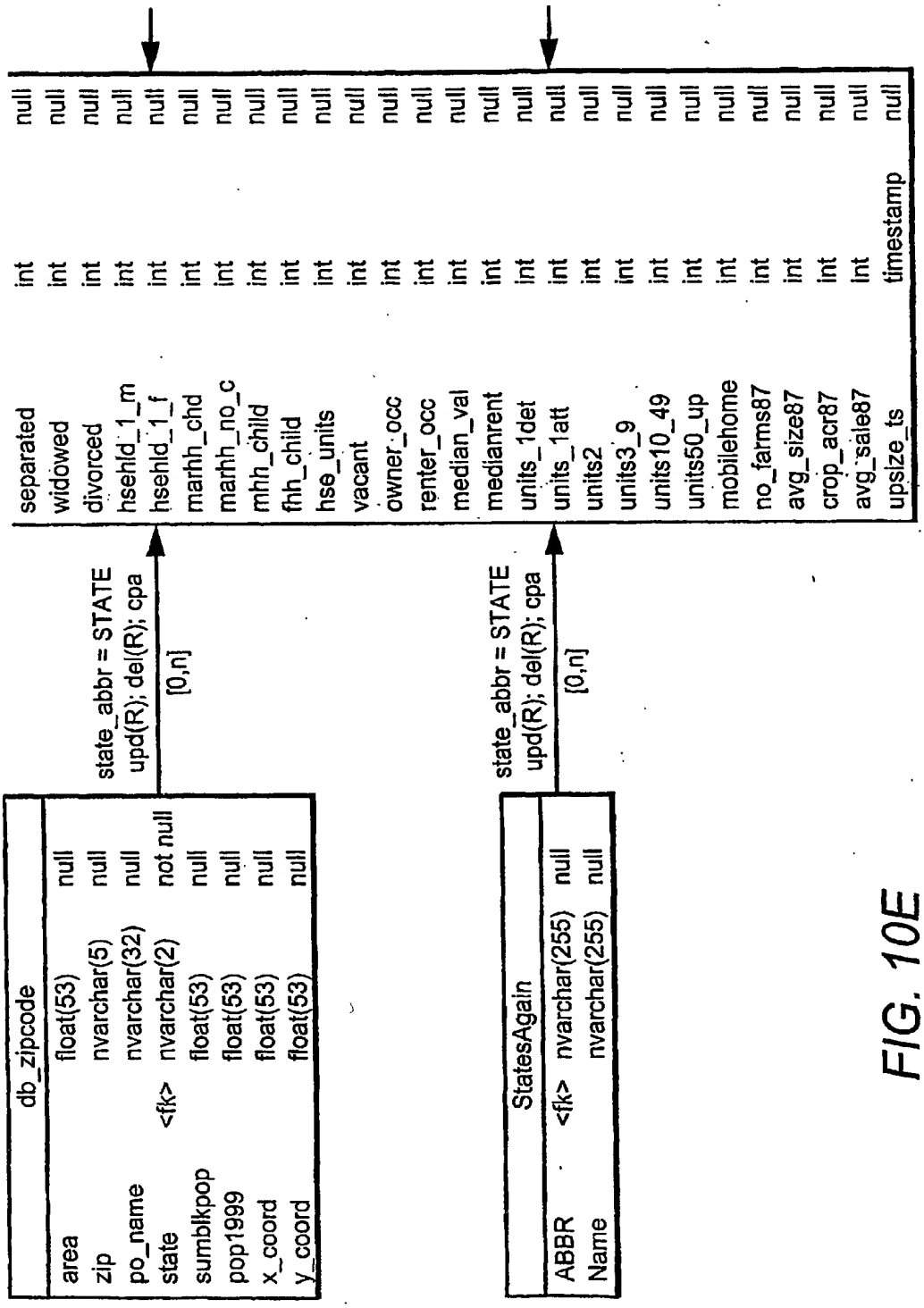

db_zipcode
area float(53) null
zip nvarchar(5) null
po_name nvarchar(32) null
state <fk> nvarchar(2) not null
sumblkpop float(53) null
pop1999 float(53) null
x_coord float(53) null
y_coord float(53) null
state_abbr = STATE
upd(R); del(R); cpa
[0,n]
separated int null
widowed int null
divorced int null
hsehld_1_m int null
hsehld_1_f int null
marhh_chd int null
marhh_no_c int null
mhh_child int null
fhh_child int null
hse_units int null
vacant int null
owner_occ int null
renter_occ int null
median_val int null
medianrent int null
units_1det int null
units_1att int null
units2 int null
units3_9 int null
units10_49 int null
units50_up int null
mobilehome int null
no_farms87 int null
avg_size87 int null
crop_acr87 int null
avg_sale87 int null
upsize_ts timestamp null
StatesAgain
ABBR <fk> nvarchar(255) null
Name nvarchar(255) null
state_abbr = STATE
upd(R); del(R); cpa
[0,n]

FIG. 10E

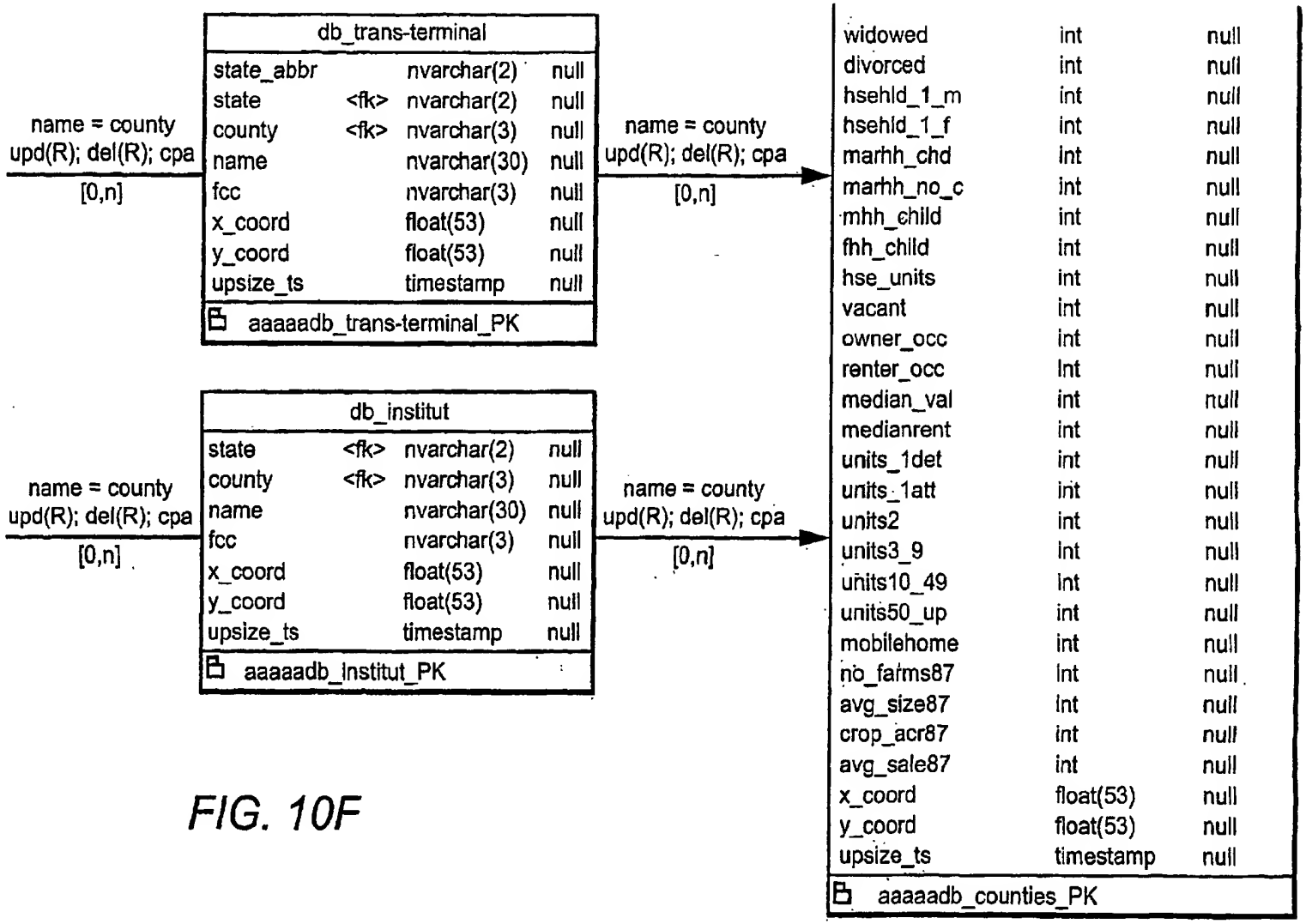

db_trans-terminal
state_abbr nvarchar(2) null
state <fk> nvarchar(2) null
county <fk> nvarchar(3) null
name nvarchar(30) null
fcc nvarchar(3) null
x_coord float(53) null
y_coord float(53) null
upsize_ts timestamp null
aaaaadb_trans-terminal_PK
name = county
upd(R); del(R); cpa
[0,n]
name = county
upd(R); del(R); cpa
[0,n]
db_institut
state <fk> nvarchar(2) null
county <fk> nvarchar(3) null
name nvarchar(30) null
fcc nvarchar(3) null
x_coord float(53) null
y_coord float(53) null
upsize_ts timestamp null
aaaaadb_institut_PK
name = county
upd(R); del(R); cpa
[0,n]
name = county
upd(R); del(R); cpa
[0,n]
widowed int null
divorced int null
hsehld_1_m int null
hsehld_1_f int null
marhh_chd int null
marhh_no_c int null
mhh_child int null
fhh_child int null
hse_units int null
vacant int null
owner_occ int null
renter_occ Int null
median_val int null
medianrent int null
units_1det int null
units_1att int null
units2 int null
units3_9 Int null
units10_49 Int null
units50_up int null
mobilehome int null
no_farms87 Int null
avg_size87 Int null
crop_acr87 int null
avg_sale87 int null
x_coord float(53) null
y_coord float(53) null
upsize_ts timestamp null
aaaaadb_counties_PK

FIG. 10F